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MANUFACTURE OF THIN-FILM TRANSISTOR

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ABSTRACT

PURPOSE: To crystallize a silicon layer without increasing processes by applying the silicon layer onto an insulating substrate through a decompression chemical vapor growth method, applying and forming an insulating thin-film having a refractive index smaller than that of the silicon layer onto the silicon layer and irradiating the insulating thin-film with laser beams.

CONSTITUTION: A silicon layer as the active region of a thin-film transistor is applied and formed so as to cover a substrate, to which a source region 103 and a drain region 104 are formed through a decompression chemical vapor growth method. The silicon layer is formed, and impurities in required quantity are implanted through an ion implantation method. The silicon layer is patterned so as to form a bridge between the source region 103 and the drain region 104, and the silicon layer 105 is shaped. A gate insulating film 106 is applied and formed on the silicon layer 105. The silicon layer 105 is irradiated with laser beams 107 and crystallized. The insulating film 106 composed of an SiO(sub 2) film at that time, and a refractive index thereof is made smaller than the silicon layer 105.